

WHAT IS CLAIMED IS:

1 1. A method for identifying an agent for treating a diabetic or pre-diabetic
2 individual, the method comprising the steps of:

3 (i) contacting an agent to a mixture comprising a polypeptide encoded by
4 a nucleic acid that hybridizes under stringent conditions to a nucleic acid encoding SEQ ID
5 NO:2, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:14, SEQ ID NO:18, SEQ ID NO:24, SEQ
6 ID NO:26, SEQ ID NO:30, SEQ ID NO:34, SEQ ID NO:38, SEQ ID NO:44, SEQ ID NO:50,
7 SEQ ID NO:54, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:74, SEQ ID
8 NO:80, SEQ ID NO:86, SEQ ID NO:92, SEQ ID NO:98, SEQ ID NO:104, or SEQ ID
9 NO:110; and

10 (ii) selecting an agent that modulates the expression or activity of the
11 polypeptide or that binds to the polypeptide, thereby identifying an agent for treating a
12 diabetic or pre-diabetic individual.

1 2. The method of claim 1, the method further comprising selecting an
2 agent that modulates insulin sensitivity.

1 3. The method of claim 1, wherein step (ii) comprises selecting an agent
2 that modulates expression of the polypeptide.

1 4. The method of claim 1, wherein step (ii) comprises selecting an agent
2 that modulates the activity of the polypeptide.

1 5. The method of claim 1, wherein step (ii) comprises selecting an agent
2 that specifically binds to the polypeptide.

1 6. The method of claim 1, wherein the polypeptide is expressed in a cell
2 and the cell is contacted with the agent.

1 7. The method of claim 1, wherein the polypeptide is SEQ ID NO:2, SEQ
2 ID NO:8, SEQ ID NO:10, SEQ ID NO:14, SEQ ID NO:18, SEQ ID NO:24, SEQ ID NO:26,
3 SEQ ID NO:30, SEQ ID NO:34, SEQ ID NO:38, SEQ ID NO:44, SEQ ID NO:50, SEQ ID
4 NO:54, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:74, SEQ ID NO:80,
5 SEQ ID NO:86, SEQ ID NO:92, SEQ ID NO:98, SEQ ID NO:104, or SEQ ID NO:110.

1 8. A method of treating a diabetic or pre-diabetic animal, the method
2 comprising administering to the animal a therapeutically effective amount of an agent
3 identified by the method of claim 1.

1 9. The method of claim 8, wherein the agent is an antibody.

1 10. The method of claim 9, wherein the antibody is a monoclonal
2 antibody.

1 11. The method of claim 8, wherein the animal is a human.

1 12. A method of introducing an expression cassette into a cell, the method
2 comprising,

3 introducing into the cell an expression cassette comprising a promoter
4 operably linked to a polynucleotide encoding a polypeptide, wherein the polynucleotide
5 hybridizes under stringent conditions to a nucleic acid encoding SEQ ID NO:2, SEQ ID
6 NO:8, SEQ ID NO:10, SEQ ID NO:14, SEQ ID NO:18, SEQ ID NO:24, SEQ ID NO:26,
7 SEQ ID NO:30, SEQ ID NO:34, SEQ ID NO:38, SEQ ID NO:44, SEQ ID NO:50, SEQ ID
8 NO:54, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:74, SEQ ID NO:80,
9 SEQ ID NO:86, SEQ ID NO:92, SEQ ID NO:98, SEQ ID NO:104, or SEQ ID NO:110.

1 13. The method of claim 12, wherein the polypeptide comprises SEQ ID
2 NO:2, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:14, SEQ ID NO:18, SEQ ID NO:24, SEQ
3 ID NO:26, SEQ ID NO:30, SEQ ID NO:34, SEQ ID NO:38, SEQ ID NO:44, SEQ ID NO:50,
4 SEQ ID NO:54, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:74, SEQ ID
5 NO:80, SEQ ID NO:86, SEQ ID NO:92, SEQ ID NO:98, SEQ ID NO:104, or SEQ ID
6 NO:110.

1 14. The method of claim 12, wherein the cell is selected from the group
2 consisting of an adipocyte and a skeletal muscle cell.

1 15. The method of claim 12, the method further comprising introducing
2 the cell into a human.

1 16. The method of claim 15, wherein the human is diabetic.

1 17. The method of claim 15, wherein the human is prediabetic.

18. The method of claim 15, wherein the cell is from the human.

19. A method of diagnosing an individual who has Type 2 diabetes or is prediabetic, the method comprising,
detecting in a sample from the individual the level of a polypeptide or the level of a polynucleotide encoding the polypeptide, wherein the polynucleotide hybridizes under stringent conditions to a nucleic acid encoding an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:14, SEQ ID NO:18, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:30, SEQ ID NO:34, SEQ ID NO:38, SEQ ID NO:44, SEQ ID NO:50, SEQ ID NO:54, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:74, SEQ ID NO:80, SEQ ID NO:86, SEQ ID NO:92, SEQ ID NO:98, SEQ ID NO:104, or SEQ ID NO:110;
wherein a modulated level of the polypeptide or polynucleotide in the sample compared to a level of the polypeptide or polynucleotide in either a lean individual or a previous sample from the individual indicates that the individual is diabetic or prediabetic.

20. The method of claim 19, wherein the detecting step comprises contacting the sample with an antibody that specifically binds to the polypeptide.

21. The method of claim 19, wherein the amino acid sequence comprises SEQ ID NO:2, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:14, SEQ ID NO:18, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:30, SEQ ID NO:34, SEQ ID NO:38, SEQ ID NO:44, SEQ ID NO:50, SEQ ID NO:54, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:74, SEQ ID NO:80, SEQ ID NO:86, SEQ ID NO:92, SEQ ID NO:98, SEQ ID NO:104, or SEQ ID NO:110.

22. The method of claim 19, wherein the detecting step comprises quantifying mRNA encoding the polypeptide.

23. The method of claim 22, wherein the mRNA is reverse transcribed and amplified in a polymerase chain reaction.

24. The method of claim 19, wherein the sample is a blood, urine or tissue sample.